

# PRINTER RUSH

(PTO ASSISTANCE)

Application : 10757860 Examiner : Lau GAU : 2863

From: J. Black Location: (IDC) FMF FDC Date: 9/20/05

Tracking #: epm 10757860 Week Date: 9/25/05

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[RUSH] MESSAGE:

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***FAX COVER SHEET*****To:** U.S. Patent Office – Publishing Division**Fax No.:** 703-746-6830**From:** John W. Wustenberg**Subject:** Notice to file corrected application papers.**Number of Pages (Including Cover):**5**Date Sent:** December 16, 2005**If problems with transmission call** Chasidy Smith @580-251-4217**CONFIDENTIALITY NOTICE**

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Practitioner's Docket No. 2003-IP-011909U1**PATENT****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**☒ In re application of: Jason D. Bivens, et al.

Application No.: 10/ 757,860

Group No. 2863

Filed: 1/15/2004

Examiner:

For: SYSTEM AND METHOD FOR MEASURING MATERIAL ADDED TO A VESSEL  
UNDER A VACUUM \_\_\_\_\_☐ Patent No.\*:

Issued:

\*NOTE: Insert name(s) of all inventor(s) and also title for patent.

Commissioner for Patents

P.O. Box 1460

Alexandria, VA 22313-1460

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Declaration for Utility or Design Patent Application12-16-05  
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Commissioner for Patents  
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Serial Number  
10757860

Date Mailed  
10/04/05

**NOTICE TO FILE CORRECTED APPLICATION PAPERS*****Notice of Allowance Mailed***

This application has been accorded an Allowance Date and is being prepared for issuance. The application, however, is incomplete for the reasons below.

Applicant is given 30 days from the mail date of this Notice within which to correct the informalities indicated below. A failure to reply will result in the application being ABANDONED. This period for reply is NOT extendable under 37 CFR 1.136 (a) or (b).

- Second inventors name is not printed on oath/declaration.

APPLICANT MUST SUPPLY MISSING INFORMATION WITHIN 30 DAYS OF THE MAIL DATE OF THIS NOTICE.

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A handwritten signature in black ink, appearing to read "Roni Burch", is written over a horizontal line.

Roni Burch  
USPTO  
Publishing Division  
Fax (703) 746-6830  
Fax (703) 308-6642

PTO/SB/01 (08-03)

Approved for use through 07/31/2006. OMB 0651-0032

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**DECLARATION FOR UTILITY OR  
DESIGN  
PATENT APPLICATION  
(37 CFR 1.63)**Declaration  
Submitted  
With Initial  
Filing

OR

Declaration  
Submitted after Initial  
Filing (surcharge  
(37 CFR 1.16 (e))  
required)

Attorney Docket Number

HES 2003-IP-011909U1

First Named Inventor

Jason D. Bivens

COMPLETE IF KNOWN

Application Number

Filing Date

Art Unit

Examiner Name

**I hereby declare that:**

Each inventor's residence, mailing address, and citizenship are as stated below next to their name.

I believe the inventor(s) named below to be the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

System and Method For Measuring Material Added To A Vessel Under A Vacuum

(Title of the Invention)

the specification of which



is attached hereto

OR



was filed on (MM/DD/YYYY)

as United States Application Number or PCT International

Application Number

and was amended on (MM/DD/YYYY)

(if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

| Prior Foreign Application<br>Number(s) | Country | Foreign Filing Date<br>(MM/DD/YYYY) | Priority<br>Not Claimed  | Certified Copy Attached? |                          |
|--|---------|-------------------------------------|--------------------------|--------------------------|--------------------------|
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☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

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This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**DECLARATION — Utility or Design Patent Application**

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| NAME OF SOLE OR FIRST INVENTOR:   |             | <input type="checkbox"/> A petition has been filed for this unsigned inventor |                     |
| Given Name<br>(first and middle [if any]) Jason D.  |             | Family Name<br>or Surname Bivens  |                     |
| Inventor's<br>Signature <i>Jason Bivens</i>   |             | Date<br>1-15-04   |                     |
| Residence: City<br>Duncan   | State<br>OK | Country<br>U.S.   | Citizenship<br>U.S. |
| Mailing Address<br>2315 Cherrybrook   |             |   |                     |
| City<br>Duncan  | State<br>OK | ZIP<br>73533  | Country<br>U.S.     |
| NAME OF SECOND INVENTOR:  |             | <input type="checkbox"/> A petition has been filed for this unsigned inventor |                     |
| Given Name<br>(first and middle [if any]) John G.   |             | Family Name<br>or Surname Heaton  |                     |
| Inventor's<br>Signature <i>John D. Heaton</i>   |             | Date<br>1-15-04   |                     |
| Residence: City<br>Duncan   | State<br>OK | Country<br>U.S.   | Citizenship<br>U.S. |
| Mailing Address<br>3010 Stagesland Road   |             |   |                     |
| City<br>Duncan  | State<br>OK | ZIP<br>73533  | Country<br>U.S.     |
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FPG between root cause  $C_i$  and alarm  $A_j$ , when "length" of arc  $(V_1, V_2)$  is defined by

$$\text{Length}(V_1, V_2) = -\ln p(V_1, V_2).$$

Denote by  $d(C_i, A_j)$  (the distance from root cause  $C_i$  to alarm  $A_j$ ) the length of this shortest path between  $C_i$  and  $A_j$ .

- 3 For given root cause  $C_i$  and input set of alarms  $X = \{A_1, A_2, \dots, A_n\}$ , the Forward Traverse finds value:

$$D(C_i, Y_i) = \sum_{A_j \in Y_i} d(C_i, A_j)$$

of the sum of the distances from root cause  $C_i$  to all  $y = y_i$  input alarms lying in the prototype, and

- 10 the average distance

$$\bar{d}(C_i, Y_i) = D(C_i, Y_i) / y_i$$

from root cause  $C_i$  to incoming alarms lying in the prototype.

In the case of compound cause  $C$  composed of two simple root cause  $C_{i1}$  and  $C_{i2}$ , distance  $d(C, A_j)$  from root cause  $C$  to alarm  $A_j$  is defined (during the Forward

- 15 Traverse) by

$$d(C, A_j) = \min(d(C_{i1}, A_j), d(C_{i2}, A_j)),$$

and then the value

$$D(C, Y) = \sum_{A_j \in Y} d(C, A_j),$$

where  $Y = Y_{i1} \cup Y_{i2}$ , is computed based on distances  $d(C, A_j)$ .

- 20 Denote by  $q(A)$  the value of "preference" of alarm  $A$  (see Alarm Table in 3.1.),

$$Q(Y_i) = \sum_{A_j \in Y_i} q(A_j)$$

the value of cumulative preference of incoming alarms lying in prototype  $Y_i$  of root cause  $C_i$ ,

$$Q(S_i) = \sum_{A_j \in S_i} q(A_j)$$

- 25 the cumulative preference of all (expected) alarms lying in prototype of root cause  $C_{i1}$   
and